

NOTIFICATION OF ADDENDUM

ADDENDUM NO. 2

DATED 9/03/2009

Control	0387-05-019
Project	STP 2010(037)ES
Highway	FM 982
County	COLLIN

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an addendum notification which details the changes and the respective proposal pages which were added and/or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped "This Proposal Issued for Informational Purposes."

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: STP 2010(037)ES

CONTROL: 0387-05-019

COUNTY: COLLIN

LETTING: 09/10/2009

REFERENCE NO: 0902

PROPOSAL ADDENDUMS

_ PROPOSAL COVER

_ BID INSERTS (SH. NO.:

X GENERAL NOTES (SH. NO.: L THRU T

_ SPEC LIST (SH. NO.:

_ SPECIAL PROVISIONS:

ADDED:

DELETED:

_ SPECIAL SPECIFICATIONS:

ADDED:

DELETED:

X OTHER: SEE CHANGES BELOW

DESCRIPTION OF ABOVE CHANGES

(INCLUDING PLANS SHEET CHANGES)

GENERAL NOTES: SHEET L - ADDED NOTE TO ITEM 508.

SHEET M - ADDED NOTE TO ITEM 530.

SHEETS N THRU T - REVISED DUE TO SHIFTING.

PLAN SHEETS: 2, 10E THRU 10I - REVISED AND ADDED SHEET 138 DUE TO ABOVE
CHANGES.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

GENERAL NOTES:

SW3P RESPONSIBILITIES

TxDOT Area of Responsibility

Responsible for the area defined by the limits of the subject project, except for those areas utilized and operated by the contractor. These areas include, though are not limited to, areas used for field offices, equipment and/or material storage, and concrete or asphalt plants.

TxDOT Operational Responsibility

Responsible for seeking coverage under the TPDES Construction General Permit (CGP) and operating the project within the requirements of the CGP for discharging storm water from the subject project and to notify MS4 permit holders of the intent to discharge storm water.

File a Notice of Termination with TCEQ upon completion of the project when the exposed areas have been stabilized with a vegetative cover of at least 70%.

Contractor Area of Responsibility

Responsible for all areas under their direct operational control which includes, though not limited to, areas used for field offices, equipment and/or material storage, and concrete or asphalt plants. These areas may be located on or off the subject project's Right of Way.

Contractor Operational Responsibility

Responsible for seeking coverage under the TPDES Construction General Permit (CGP) and adhering to all requirements of the permit for discharging storm water from the areas under their operational control. Perform regular inspections, prepare a written report of deficiencies, and repair deficiencies within the time frame set forth by the permit. File a Notice of Termination with TCEQ upon completion of the project when the exposed areas have been stabilized with a vegetative cover of at least 70%.

Responsible under contractual obligations to TxDOT to install, clean, repair, replace or remove sediment and erosion control devices as indicated on TxDOT's Inspection Reports, or as required by daily construction practices, within the time frame set forth by the permit.

Specification Data

Table 1: Soil Constants Requirements				
Item	Description	Plasticity Index		Note
		Max	Min	
132	Embk(DC)(Type C)	40	8	1

Note 1: Material excavated from the project must meet the PI requirements when used in the top 10 feet of embankment that supports the pavement structure or other locations shown in the plans. Do not use shale and obtain approval to incorporate shaley clay produced by the construction project.

Table 2: Basis of Estimate for Permanent Construction						
Item	Description	Thickness	Rate		Quantity	
162	Block Sod	N/A	N/A		132	Sy
164	Straw/Hay Mulch Seed	N/A	See General Note		26,191	Sy
166 *	Fertilizer (16-20-0)	N/A	400	Lbs/Ac	1.1	Ton
168	Vegetative Watering (8 weeks)	N/A	4.0	Gal/(Wk·Sy)	838.1	Mg
260	Lime (Com or Qk) (Slurry)	21"	6% by wt		2,196	Ton
340	Hot Mix Asphalt (Ty B)	4"	110	Lbs/(Sy·In)	9,295	Ton
* For contractor's information only						
Note: (1) Asphalt weight based on 110 Lbs/(Sy·In) (2) Subgrade weight based on 1.50 Ton/Cy (dry- compacted)						

Table 3: Basis of Estimate for Temporary Erosion Control Items					
Item	Description	Rate		Quantity	
164	Drill Seed	See General Note		19,294	Sy
168	Vegetative Watering (8 weeks)	4.0	Gal/(Wk·Sy)	617.4	Mg
*For contractor's information only					

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Table 4: Hamburg Wheel Test Requirements			
High-Temperature Binder Grade	Test Method	Laboratory Mixture Design or Trial Batch	Production and Placement Test ¹
		Minimum # of Passes @ 0.5" Rut Depth, Tested @ 122°F	Minimum # of Passes @ 0.5" Rut Depth, Tested @ 122°F
PG 64-22 or lower	Tex-242-F	7,500	7,500

1. The Engineer may accept if no more than 1 of the 5 most recent Hamburg Wheel tests is below the specified number of passes and the failing test is no more than 2000 passes below the specified number of passes.

General:

Access will be provided to all business and residences at all times. Materials, labor and maintenance for these temporary accesses will not be paid for directly, but will be considered subsidiary to the various bid items.

The construction, operation and maintenance of the proposed project will be consistent with the state implementation plan as prepared by the Texas Commission on Environmental Quality.

The disturbed area for this project, as shown on the plans is 14.34 acres. However, **the Total Disturbed Area** (TDA) will establish the required authorization for storm water discharges. The TDA of this project will be determined by the sum of the disturbed area in all project locations in the contract, and all disturbed area on all Project-Specific Locations (PSL) located in the project limits and/or within 1 mile of the project limits. The department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction site as shown on the plans, according to the TDA of the project. The Contractor will obtain any required authorization from the TCEQ for the discharge of storm water from any PSL for construction support activities on or off of the project row according to the TDA of the project. When the TDA for the project exceeds 1 acre, provide a copy of the appropriate application of permit (NOI, or Construction Site Notice) to the Engineer, for any PSL located in the project limits or within 1 mile of the project limits. Follow the directives and adhere to all requirements set forth in the TCEQ, Texas Pollution Discharge Elimination System, Construction General Permit (TPDES, CGP).

This project required permits with environmental resources agencies. There is a high probability that an environmentally sensitive area could be encountered on the contractor designated Project-Specific Locations (PSL) for this project (haul roads, equipment staging areas, borrow pits, disposal sites, field offices, storage areas, parking

County: COLLIN**Highway: FM 982****Control: 0387-05-019**

areas, etc.). Item 7.19.F, "Project-Specific Locations", will provide a listing of regulatory agencies that may need to be contacted regarding this project.

Prior to contract letting, bidders may obtain a free computer diskette or electronic files (from the engineer's office) that contains the earthwork information. If copies of the actual cross-sections, in addition to or instead of the diskette, are requested, they will be available at the engineer's office for borrowing by copying companies for the purpose of making copies for the bidder at the bidder's expense. This data is for non-construction purposes only and it is the responsibility of the prospective bidder to validate the enclosed data with appropriate plans, specifications and estimate for the project(s).

Leave all right of way areas undisturbed until actual construction is to be performed in said areas.

Place survey monuments, provided by the department, at points indicated and as detailed in the plans or as directed. Furnish surface coordinates and the elevation of the set monument and an azimuth from the monument to some prominent physical feature, preferably another survey monument on the project. This work will not be paid for directly, but will be considered subsidiary to the various bid items.

Use established industry and utility safety practices to erect poles, luminaries, signs or structures near any overhead or underground utility. Consult with the appropriate utility company prior to beginning such work.

Underground utilities owned by the Texas Department of Transportation may be present within the Right-Of-Way on this project. For signal, illumination, surveillance, and communication & control, call 1-800-DIG-TESS (1-800-344-8377), TxDOT Traffic Signal Office (214-320-6682), and TxDOT Freeway Management Office (214-320-4439) for locates a minimum of 48 hours in advance of excavation. For irrigation systems, call TxDOT Maintenance Landscape Office (214-320-6205) for locates a minimum of 48 hours in advance of excavation. If city or town owned irrigation facilities are present, call the appropriate department of the local city or town a minimum of 48 hours in advance of excavation.

For the project to be deemed complete, permanently stabilize all unpaved disturbed areas of the project with a vegetative cover at a minimum of 70% density for the control of erosion.

Repair or replace any structures and utilities that might have been damaged by negligence or a failure to have utility locates performed.

Perform all electrical work in accordance with the National Electrical Code and Texas Department of Transportation Specifications.

Consult with appropriate electric company representatives according to their respective area to coordinate electrical services installations.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Meet weekly with the engineer to notify him or her of planned work for the upcoming week.

Provide the Engineer with a daily work schedule of planned work.

Submit pre-letting questions by e-mail or fax as follows: e-mail: rjohnst@dot.state.tx.us and gkhanka@dot.state.tx.us, fax: (972) 542-5820. The answers will be submitted in the same format that they are received. A file containing these questions and answers will be available for review at the Area Engineer's office located at 2205 S. SH 5, McKinney, Texas.

Material On Hand (MOH) will not be used in calculating partial payments for Mobilization.

Provide the Engineer with a copy of all DBE subcontractor agreements prior to commencing work.

Submit all shop drawings, working drawings, or other documents which require review Sufficiently in advance of scheduled construction to allow no less than thirty (30) calendar days for review and response.

Item 8: Prosecution and Progress

This Project will be a Five-Day Workweek in accordance with Article 8.3.A.1.

Item 100: Preparing Right of Way

Remove and replace the existing roadway signs as shown on the plans, or as directed, during construction within the right of way.

Item 104: Removing Concrete

Sawing of concrete is not paid for directly, but is considered subsidiary to this item.

Items 104 & 496: Removing Concrete & Removing Structures

Removal of all concrete and structures of the types specified in the plans will be paid for under the pertinent bid item. The removal of other types of obstructions encountered will be paid for under Item 100, if applicable.

Items 105: Removing Stabilized Base and asphalt Pavement

Saw existing asphalt along neat lines where portions are to be left in place temporarily or permanently. Sawing is not paid for directly, but is subsidiary to this item.

Separate the asphalt pavement from the base material. Ensure that 95% of the reclaimed material passes a 2-in sieve. Stockpile the asphalt pavement at TxDOT's Collin County Area Office located at 2205 S. SH 5, McKinney, Texas. Place the asphalt

County: COLLIN

Highway: FM 982

Control: 0387-05-019

pavement material in a stockpile that meets the dimensions and requirements designated by the engineer.

Properly dispose of unsalvageable material at your own expense.

Existing pavement range of thicknesses was determined based on cores taken at the following locations:

Core Summary		
Core Number	Station	HMAC Thickness
1	10+00	14.5"
2	19+10	17.25"
3	38+10	10.25"
4	44+00	9"
*For contractor's information only		

Items 110 & 132: Excavation & Embankment

Excavation and embankment for driveways, sleeper slabs, alleys and intersections will not be paid for directly, but will be considered subsidiary to this item.

Scarify and loosen the excavated areas, unpaved surface areas, except rock, to a depth of at least 8 inches and compact in accordance with the specifications.

Use an approved laboratory to perform tests for sulfate and plasticity index and provide results on sources outside the right of way at no additional expense to the department. Test soil for sulfate levels in accordance with Tex-145-E. Contact the Engineer for a list of approved laboratories. Notify the Engineer 72 hours before sampling and testing material. Perform split-sample verification testing with the Engineer when directed. The Engineer will sample and test material produced by the construction project for specification requirements or material sources specified in the plans.

When lime treatment is allowed to reduce Plasticity Index, apply lime slurry in accordance with Item 260, "Lime Treatment (Road-Mixed)." Furnish material containing sulfate at or below the threshold of 5000 parts per million (ppm). For material with sulfate levels greater than 3000 ppm, allow the mixture to mellow for at least three days, or as directed. The engineer will test material placed or excavated to a depth of one foot below and laterally to one foot outside the proposed treatment limit. Notify the Engineer 48 hours before lime treatment of the material.

Shale is not an acceptable material for embankment. Do not use shaley clays in embankment unless approved in writing.

The top 4 inches of embankment shall be fertile soil, be easily cultivated, free from objectionable material, have relatively high erosion resistance, and be readily able to support the growth of planting, seeding, or sodding.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Items 110, 132, & 164: Excavation, Embankment, & Seeding for Erosion Control

Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring at least 12 inches in length by 2 to 4 inches in width by 1/2 to 2 inches in depth. Do not exceed 12 inches between track cleats. Install continuous linear track impressions where the minimum 12 inches in length impressions is perpendicular to the direction of water flow. This will not be paid for directly, but considered subsidiary to this item.

Item 132: Embankment

Earth embankment Type C, is mainly composed of material other than shale. Furnish material that is free from vegetation or other objectionable material and that conforms to the requirements of Table 1 (Sheet B). If necessary, add lime slurry in accordance with Item 260, "Lime Treatment (Road-Mixed)" in order to meet these requirements. Use Tex-121-E, figure 1, page 5 to calculate the amount of lime required. Furnish material containing sulfate at or below the threshold of 5000 parts per million (ppm). For material with sulfate levels greater than 3000 ppm, allow the mixture to mellow for at least three days, or as directed. Test soil for sulfate levels in accordance with Tex-145-E. Use an approved laboratory to perform tests for sulfate and plasticity index and provide results on sources outside the right of way to the department. Contact the Engineer for a list of approved laboratories. Notify the Engineer 48 hours before sampling and testing material. Perform split-sample verification testing with the Engineer when directed. The Engineer will sample and test material produced by the construction project for specification requirements or material sources specified in the plans. The Engineer will test material placed or excavated to a depth of one foot below and laterally to one foot outside the proposed treatment limit. Lime treatment and testing of this material will not be paid for directly, but will be considered subsidiary to this item.

Do not use shaley clays in embankment unless approved in writing.

The top 4 inches of embankment shall be fertile soil, be easily cultivated, free from objectionable material, have relatively high erosion resistance, and be readily able to support the growth of planting, seeding, or sodding.

Item 164: Seeding for Erosion Control

Use the following application rate for permanent seeding, as directed:

- Green Sprangletop 15 Lbs/Ac
- Hulled – Common Bermuda 50 Lbs/Ac
- Buffalograss 25 Lbs/Ac

Use the following application rate for temporary seeding, as directed:

- Foxtail Millet at 75 Lbs/Ac (Warm)
- Red Winter Wheat at 30 Lbs/Ac (Cool)

Limits of seeding are for estimate purposes only and are subject to field measurement.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Item 260: Lime Treatment (Road-Mixed)

Furnish and distribute MS-2 smoothly and evenly at the rate of 0.20 gallons per square yard to cure lime, as directed.

Item 301: Asphalt Antistripping Agents

Provide liquid antistripping agents unless otherwise directed. Provide manufacturer's instruction for liquid antistripping agent.

Add the minimum percentage determined by the manufacturer and try subsequent trials at 0.25% increments, unless otherwise instructed by the manufacture.

Items 340: Dense-Graded Hot-Mix Asphalt (Method)

Provide the Engineer the opportunity to witness all mixture design tests. The Engineer may require a retest if not given the opportunity to witness.

Dilution of tack is not allowed.

Provide PG binder 64-22 in Type B mixture.

Hamburg Wheel test requirements for mixes with PG 64-22 shall meet Table 4. The use of RAP is permitted to meet these requirements.

Item 360: Concrete Pavement

Use of multiple piece tiebars will be required. Provide chairs for multiple piece tiebars, threaded connectors or other adequate devices, used in concrete paving, or tie them to the pavement reinforcing steel. If approved by the Engineer for specific areas, in lieu of multiple piece tiebars, drill holes into the pavement and grout straight tiebars in place with epoxy. Use a non-impact, rotary core drill to prevent damage to the pavement unless otherwise directed. Clean the drill holes and then completely fill with epoxy before inserting the tiebar. Do not bend the tiebars or insert them into plastic concrete without the approval of the Engineer.

Provide curbs monolithically constructed with the concrete pavement. If continuous monolithic curb has to be temporarily omitted for any reason, provide dowelled curbs in the proposed areas, as detailed in the plans, and apply an approved epoxy resin to the pavement to receive the curb as directed. This work and materials will not be paid for directly, but is considered subsidiary to this item.

Stockpile the concrete aggregates at the plant site.

Provide pavement widening joints, as detailed in the plans, at all locations where concrete pavement is placed adjacent to existing concrete pavement. Installation of these joints is not paid for directly, but is considered subsidiary to this item.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Provide a curing machine equipped with rubber tires, or other acceptable arrangement, so that the machine will span the pavement and monolithic curb.

Curb transition is paid for as Type I curb.

The installation of curb openings is not paid for directly, but is considered subsidiary to this item.

Place construction, sawed and contraction joints in accordance with the pavement detail sheet and as directed. Joint locations, other than as shown on the plans, are subject to approval. Pavement leaveouts are required on this project as necessary to provide for traffic at driveways and side streets as shown in the plans or as directed. The cost of providing these leaveouts, including the construction of a suitable crossover connection at each site, is not paid for directly, but is considered subsidiary to this item.

If a traveling form paver is used, provide one equipped with an electronically operated horizontal control device.

Provide tiebars in longitudinal joints but do not place them within 15 inches of transverse joints.

Provide Class HES concrete at locations shown in the plans. Design Class HES to meet the requirements of Class P and a minimum average flexural strength of 400 psi or minimum average compressive strength of 2600 psi in 24 hr.

Item 360 & 421: Concrete Pavement & Hydraulic Cement Concrete

Contractor personnel performing job-control testing on concrete must be ACI- Certified. Provide a copy of certification paper to the Engineer upon arrival and before testing at job site. Furnish hard copies of calibration reports for testing equipment when non-TxDOT approved equipment is used to test concrete.

The Engineer may allow the use of local commercial laboratories under contract to provide these services.

Item 400: Excavation and Backfill for Structures

Structural Excavation is not paid for directly, but is considered subsidiary to pertinent Items.

When placing concrete storm drain pipe on slopes of greater than 10 percent, provide cement stabilized backfill to a depth shown on the plans. The aggregate shall conform to the requirements of Article 421.2.E.2.

Item 416: Drilled Shaft Foundations

Provide a smooth finish for all portions of drill shafts extending above proposed ground. Include cost for this work in the unit bid price for this item.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Item 421: Hydraulic Cement Concrete

Furnish mix designs to the Engineer in a format compatible to the latest version of the Department's Construction Management System (Site Manager). Mix Design templates will be provided by the Engineer.

Provide sulfate resistant concrete for box culverts and drill shafts. High performance concrete meets the requirement for sulfate resistant concrete when Class C fly ash and Type I cement is not used in the mix design.

Strength evaluation using maturity testing, Tex-426-A, may be used for all concrete elements except drill shafts and mass concrete pours.

Provide a digital hydraulic compression testing Machine and accessories for testing 4"x8" cylinders and 6"x12" cylinders. The machine shall have a minimum testing range of 2500 pounds force to 250,000 pounds force with a hydraulic switching valve to allow for rapid advancing, hold, controlled advancing and rapid retracting. The machine shall have a load cell to measure compressive forces within the testing range and shall be calibrated and verified in accordance with ASTM latest version. The Machine can meet or exceed the following when approved by the Engineer:

ELE International ACCU-TEK250 Digital Compression Tester including accessories or Forney F-250EX Standard Compression Machine including accessories or TxDOT approved equal.

Air-entrain all concrete except for Class "B" and concrete used in drilled shafts. For structural concrete, if the air content is more than 1.5% below the required air, follow manufacturer recommendations to add the necessary approved air bags to increase the air content at the job site. Limit the adding of air bags in the field to one trial. Do not reject the load of concrete due to low air content; accept concrete based on strength tests.

Item 449: Anchor Bolts

Use Crouse Hinds TL-2, OZ/Gedney Stl, Thomas & Betts Kopr-Shield or other approved electrically conducting lubricant compound.

Item 464: Reinforced Concrete Pipe

The concrete collars and the connections of pipes to existing or proposed concrete boxes or pipe will not be paid for directly, but will be considered subsidiary to the various bid items.

Item 471: Frames, Grates, Rings, and Covers

Tackweld all inlet grates and manhole covers to the frame with two 1-inch welds. Supply un-painted cast iron inlet grate and frame and/or cast iron manhole frame and cover.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Item 479: Adjusting Manholes and Inlets

Accept ownership of inlet grates and manhole covers and properly dispose of them outside the limits of the right of way in accordance with federal, state and local regulations.

Item 496: Removing Structures

Inlet grates and manhole covers become the property of the Contractor for disposal.

Item 502: Barricades, Signs, and Traffic Handling

Provide written proposed lane closure information by 1:00 pm on the business day prior to the proposed closures. Do not close lanes when this requirement is not met.

When excavation is required next to a pavement lane carrying traffic and the widening is not completed by the end of the work day, backfill against the edge of the pavement with at least a 3:1 slope using an acceptable material to support vehicular traffic. Carefully remove and dispose of this material when work resumes. Backfilling pavement edges, and the materials required for the work will be subsidiary to this item.

Erect a Type III barricade immediately in front of or at each end of all stockpiles that are less than 30 feet from the edge of any traveled lane. Place one Type 2 Object Marker (OM-2Y) alongside the stockpile for every 100 feet of stockpile length.

Place barricades and signs in locations that do not obstruct the sight distance of drivers entering the highway from driveways or side streets.

Do not commence work on the road before sunrise. Do not operate or park any equipment/machinery closer than 30 feet from the traveled roadway after sunset unless authorized by the engineer.

When moving unlicensed equipment on or across any pavement or public highways, protect the pavement from all damage using an acceptable method.

Provide 2 shadow vehicles equipped with truck mounted attenuators as shown on the traffic control plan.

Traffic Control Plans with Lane Closures causing backups of 20 minutes or greater in duration will be modified by the Engineer.

Limit lane closures along FM 982 to the hours between 9:00 am and 3:30 pm. Limit lane closures along US 380 to the hours between 9:00 am and 3:30 pm. Work in other areas of the project is not restricted to this time frame.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Item 504: Field Office and Laboratory

Furnish one Field Office and a Laboratory (Type B) at the project site, one Field Laboratory (Type A) at the concrete batch plant and one Asphalt Mix Control Laboratory (Type D) at the asphalt mixing plant.

Provide one local phone line to the field office. Supply one phone jack and one telephone per each room in the field office. The cost of the phone installation and various monthly phone service charges will be the contractor's responsibility.

Parking shall be provided for 4 vehicles, chain link fencing will be provided around the field office and parking areas.

Provide an all in one printer/scanner/fax/copier with software that is compatible with TxDOT equipment, cost not in excess of \$300. This is subsidiary to the bid item.

Item 506: Temporary Erosion, Sedimentations, and Environmental Controls

SW3P Maintenance Reports are made every seven calendar days. Make corrections as soon as possible before the next anticipated rain event or within seven calendar days after being able to enter the site to work for each BMP. A BMP site being "Too Wet to Work" is the only acceptable reason for not accomplishing the corrections with the seven calendar day time limit and should be thoroughly documented on Form 2118. If maintenance corrections are not made within this time frame then all work will cease, time charges will continue until SW3P is brought into compliance and is documented on Form 2118 after TxDOT review.

This in no way releases the Contractor of liability for noncompliance.

Obtain from the Engineer a copy of the project's TPDES Storm Water Program and Notice of Intent or Construction Site Notice. Laminate the sheets and bond with adhesive to 36" X 48" plywood sign blanks. Ensure the sheets remain dry. Apply Type C Blue reflective sheeting as the background and add the text "SW3P" in 5" white lettering, centered at the top. Attach the signs to approved temporary mounts and locate at each of the project limits or as directed by the Engineer. SW3P Signs, maintenance, and repostings will be subsidiary to Item 502.

Item 508: Constructing Detours

Testing of materials used in the construction of a temporary detour may be waived when approved by the Engineer.

If temporary detour embankment is to also be used as permanent embankment, testing will be required.

Detour HMA is to be TY B mixture with a PG 64-22 binder.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Item 529: Concrete Curb, Gutter, and Combined Curb and Gutter

Provide grooved joints at 10-foot intervals and 3/4 inch expansion joint material for doweled curb at the same locations as on the existing pavement.

Saw joints at the same location as on the existing pavement.

Item 530: Intersections, Driveways, and Turnouts

Provide Class "HES" concrete for concrete intersections and driveways listed or shown on the plans.

Class "HES" concrete shall be used at the following areas:

- Peachtree Street
- Timbercreek Court
- Harvard Drive

Provide PG binder 64-22 in Type C mixture.

Item 585: Ride Quality for Pavement Surfaces

Use Surface Test Type A on all intersections and driveways.

Use Surface Test Type B pay adjustment schedule 2 on the travel lanes.

Item 610: Roadway Illumination Assemblies

Lamp fixture & illumination arm are not needed. Illumination pole is for installation of SSR uni-antenna.

Item 618: Conduit

The location of conduits and ground boxes are diagrammatic only and may be shifted to accommodate field conditions as directed.

Secure permission and approval from the proper authority prior to cutting into or removing any sidewalks or curbs for installation of this Item.

Place conduit under existing pavement by an approved boring method. Do not place boring pits closer than 2 feet from the edge of the pavement unless otherwise directed. Do not use water jetting. When boring is used for under pavement conduit installations, the maximum allowable over-cut is 1 inch in diameter. When conduits are bored, do not exceed 18 inches in the vertical and horizontal tolerances as measured from the intended target point.

Do not use a pneumatically driven device for punching holes beneath the pavement (commonly known as a "missile").

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Furnish and install a non-metallic pull rope in conduit runs in excess of 50 feet.

Use a colored cleaner-primer on all PVC to PVC joints before application of PVC cement.

Seal all conduit ends with a permanently soft, non-toxic duct seal. Use a duct seal that does not adversely affect other plastic materials or corrode metals.

Item 628: Electrical Services

Contact the appropriate utility company during the first three weeks of the project lead-time period to allow adequate time for any necessary utility adjustments, transformer installation, etc.

Label the service enclosures indicating service address as well as all required information as shown on the Electrical Detail (ED) standard sheets. Labeling all be silk screening or other acceptable methods. This work will not be paid for directly, but is subsidiary to this item.

When concrete for service pole foundation is required, use Class A in accordance with Item 421, "Concrete for Structures", except consider the concrete subsidiary to Item 628 for payment purposes. When reinforcing steel for service pole foundations is required, it will be in accordance with Item 440, "Reinforcing Steel", except consider the steel subsidiary to Item 628 for payment purposes.

Bill the electrical service power usage to the Texas Department of Transportation.

Item 656: Foundations for Traffic Control Devices

Form a 3/4-inch chamfer on the top edge of each signal pole foundation.

Probe for utilities and underground structures prior to drilling foundations. Foundations shall be paid for once regardless of extra work caused by obstructions.

Item 666: Reflectorized Pavement Markings

Provide Type III Glass Traffic Beads that meet the requirements of Departmental Materials Specifications DMS-8290.

Item 672: Raised Pavement Markers

Black adhesive will be used on asphalt pavements. White adhesive will be used on concrete pavements.

Item 677: Eliminating Existing Pavement Markings and Markers

Grinding of pavements is not allowed to eliminate pavement markings.

County: COLLIN**Highway: FM 982****Control: 0387-05-019**

Placement of paint or thermo is not allowed to eliminate pavement markings.

Item 680: Installation of Highway Traffic Signals

Requirements for this Item include the following work, all of which are subsidiary to this Item:

1. The proposed traffic signal shall be constructed at the beginning of the project, to avoid conflicts with the roadway reconstruction.
2. Furnish and install sign panels for mounting on signal poles and mast arms. All existing signs will be relocated to permanent signal, including push button signs. Fabricate the sign panels in accordance with Item 636, and mount with Astro-Sign Brac, Signfix aluminum channel, or equal as approved by the Engineer.
3. Provide submittal literature for all traffic signal equipment before installation.
4. Have a qualified technician on the project site to place the traffic signal in operation.
5. Use qualified personnel to respond to and diagnose all trouble calls during the thirty-day test period. Repair any malfunction to Contractor-supplied signal equipment. Provide to the Engineer a local telephone number, not subject to frequent changes and available on a 24-hour basis, for reporting trouble calls. Response time to reported calls must be less than 2 hours. Make appropriate repairs within 24 hours. Place a logbook in the controller cabinet and keep a record of each trouble call reported. Notify the Engineer of each trouble call. Do not clear the error log in the conflict monitor during the thirty-day test period without approval.
6. Install the Opticom cable supplied by the City of Princeton (Fire Chief Mike Woody 972-736-2416)
7. Prevent any damage to property owner's poles, fences, shrubs, mailboxes, etc. Protect all underground and overhead utilities and repair any damage. Provide access to all driveways during construction.
8. Connect all field wiring to the controller assembly. The District will assist in determining how the cables are to be connected, and will also program the controller for operation, hook up the conflict monitor, and other equipment, and turn on the controller.
9. Notify the District Signal Maintenance Office at (214)320-6682 and Construction Office at (214)320-6694 one week before beginning any work involving traffic signals.
10. During the transfer from the existing signal to the permanent signal, the contractor shall provide traffic control for four way stop. The transfer should take place during the hours of 9 am to 2 pm, with a maximum of five hours down time.
11. Furnish and install a new eight=phase NEMA TS2 Type 2 controller, meeting the requirements of Departmental Materials Specifications DMS-11170. Provide the cabinet (NEMA TS2 Type 1) with an "A" connector harness (for NEMA TS2 Type 2 controller). Provide detector panel toggle switches that additionally permit the user to disconnect the detector. For a ground-mount cabinet, provide cabinet configuration 4 (16 position load bay) in a TS2 Size 6 cabinet. Install a 1 inch RM conduit from the cabinet to the nearest ground box for the phone line.
12. Install the controller cabinet in an orientation as directed.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

13. Deliver/Pick-up the cabinet, controller, and accessories to the District Signal Shop, at 4777 E Hwy 80, Mesquite. Notify the District Signal Shop two working days before delivery at (214) 320-6682.

Item 682: Vehicle and Pedestrian Signal Heads

Install signal head attachments so that the wiring to each signal head passes from the mast arm through the attachment hardware to the signal head. Do not leave cable or wiring exposed.

Provide signal head attachments that allow for adjustment about the horizontal and vertical axis.

Provide aluminum signal heads and aluminum tubing in the following color: Federal Yellow #13538 of Federal Standard 595. Provide back plates, louvers, and the inside of visors with a flat black finish. Provide polycarbonate back plates for all traffic signal heads.

Turn down signal heads or cover with burlap or other material, as approved, until traffic signal is placed in operation.

Mount signal heads level and plumb and aimed as directed.

Item 684: Traffic Signal Cables

Provide stranded 14 AWG Type A signal cables.

Provide a separate multi-conductor signal cable (14 AWG) inside pedestal poles and signal poles from the terminal strip to each signal head as shown on the plans.

Identify each cable as shown on the plans (cable 1, etc.) with permanent marking labels (Panduit Type PLM standard single marker tie, Thomas&Betts Type 548M, or equal) at each ground box, pole base, and controller.

Item 686: Traffic Signal Pole Assemblies (Steel)

Provide 12 circuit Buchanan Type 112SN, Kulka Type 985-GP-12 CU, or equal terminal strips in the signal pole access compartment. Provide additional terminal strips of 8 circuits each when more than 12 circuits are required.

Mark pole shafts and mast arms with the identification numbers from the plans to facilitate field-assembly. Identify pole shafts and mast arms by intersection for projects with multiple intersections.

Provide nuts on top and bottom (double nuts) of the base plate as shown on the plans.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Set anchor bolts for mast arm signal poles and strain poles so that two are in tension and two are in compression. Obtain approval of anchor bolt placement before placing concrete.

Use the traffic signal pole heights and mast arm lengths shown on the plans and in the material summary for bidding purposes only. Make field measurements to determine the actual pole height and mast arm length required. Provide vertical clearance of 17 to 19 feet from the roadway to the lowest point of the signal head or mast arm. Place signal heads 40 feet minimum and 180 feet maximum from the stop line. If the nearest signal is more than 180 feet from the stop line, place a supplemental near-side signal head. Determine the field measurements and elevations from the actual field location of the poles, considering all above and below ground utilities and existing roadway elevations.

Provide vibration dampers for mast arms 28 feet long and longer. Use dampers 18"x48" for arms up to 48 feet long, and 16"x66" for longer mast arms. Install using Astro-sign Brac, Signfix aluminum channel, or equal, at a maximum of 3 feet from the end of the mast arm.

Item 688: Pedestrian Detectors and Vehicle Loop Detectors

Provide pedestrian push button assemblies that have permanent-type signs within the detector unit which indicates which crosswalk signal is actuated. Provide push buttons with a minimum 2 inch convex plunger. Provide a protective shroud encircling the plunger to deter vandalism that is cast as part of the housing cover. Use a plunger that protrudes beyond the shroud a distance adequate to accommodate the switch travel. Verify the location of the push button assemblies and the direction of the arrows on the signs prior to installation.

Item 730: Roadside Moving

Mow non-paved areas within the project prior to placement of permanent vegetation. Mow up to eight (8) cycles per growing season. Mowing will be considered subsidiary to the various bid items.

Item 6006: Spread Spectrum Radios for Traffic Signals

Install the coaxial cable so that it is not exposed to the outdoor environment.

Provide the latest version of the applicable SSR diagnostic software to the District on 3.5 inch disks, and ensure that it will operate under DOS 6.2 or Windows 98 operating systems.

Item 6007: Removing Traffic Signals

Remove the existing traffic signals at US 380 & FM 982, as shown on the plans. Salvage cabinet, controller and signal heads to the District Signal Shop, 4777 E Hwy 80, Mesquite. The remaining equipment becomes the property of the Contractor. Maintain the operation of the existing traffic signal until directed to remove it.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Item 6266: Video Imaging Vehicle Detection System

Provide a Video Processor System (VPS) that can provide up to thirty-two (32) detector outputs to the controller from up to eight (8) camera/video processor units (C/VPU). Route the detector outputs through the detector panel and the detector test switches. For each C/VPU, provide a field of view with a minimum of thirty-two (32) virtual detection zones for vehicle detection.

(Note: Use one processor system per intersection)

Wire the outputs as follows:

Card1		Card2	
Output	Detector	Output	Detector
1	1-1	17	3-1
2	6-1	18	8-1
3	6-2	19	8-2
4	6-3	20	8-3
5	6-4	21	8-4
6	Spare	22	Spare
7	SD1	23	SD5
8	SD2	24	SD6
9	5-1	25	7-1
10	2-1	26	4-1
11	2-2	27	4-2
12	2-3	28	4-3
13	2-4	29	4-4
14	Spare	30	Spare
15	SD3	31	SD7
16	SD4	32	SD8

*SD: System Detector

Provide (7) cameras for this project, and one (1) spare camera, total of eight (8) cameras.

Central control will be located at the District Signal Shop. The District will provide a workstation computer (IBM 300PL), telephone line and modem at the central location. Provide all software and other necessary equipment. Transmit video to the central computer. Codec or other equipment to enhance the video performance is not required.

Provide a set-up system. Load required set-up software onto all of the District Signal Shop's notebook computers and provide all necessary licensing. The Contractor does not provide computers as part of the set-up system.

County: COLLIN

Highway: FM 982

Control: 0387-05-019

Provide phase red and green load switch outputs from up to eight (8) phases of a NEMA TS2 Type 2 controller as inputs to the VPU for use with internal detector extend/delay timing functions. Ensure the C/VPU is able to condition the detector outputs and detection zones based on the state of the associated phase number and color.

Supply a package that will operate with Windows 98 and NT and provide the functionality defined in both sections 7.0 and 9.0 in both a direct connect and remote communications mode. Ensure the software resident in the C/VPU and the personal computer is capable of transmitting and receiving all information needed for zone set up, monitoring vehicle detection by viewing flashing detection zone overlays, and uploading/downloading and interrogating all stored data within the C/VPU. Ensure remote communications with the C/VPU is possible with the addition of external communication devices (modem, Codec, etc.) using the RS-232 and video output ports on the front of the VPU.

Ensure the C/VPU operational software is stored internally in flash memory and capable of being updated without the removal and replacement of memory devices.

Provide a camera interface panel mounted to the wall of the cabinet for protecting the camera video and power inputs/outputs. The panel shall contain as a minimum; an EDCO ACP-340 for the camera and VIVDS Processor unit power, with an on/off switch, a convenience outlet protected by the ACP-340, a 10-amp circuit breaker, and a terminal strip with a minimum of six (6) 8-32 binder head screws. The AC connections shall be protected using a piece of 1/8-inch plexi-glass.

Install the VIVDS detection zones as directed. Have qualified personnel on site at the time of the signal turn-on to assist with the installation of detection zones.

If the camera locations shown in the plans do not allow for proper sight of the proposed detection zones, relocate the cameras as needed and as directed. This labor and material cost will not be paid separately, but is subsidiary to this item.

The Video Processor Unit (VPU) may reside inside the camera housing. Use video output from the C/VPU in color or black/white with active detection zones overlaid on full motion video.

Provide Field Communications Link required by the manufacturer of the video detection system. These cables will be paid for as the type shown in the plans regardless of actual type of cable.

The list of material below is for the Contractor's information only.
It is the responsibility of the Contractor to verify
all items and quantities listed below.

**LIST OF MATERIAL/LABOR
SUBSIDIARY TO ITEM 680**

Project Number: STP 2010(037)ES

Sheet:

County: COLLIN

Highway: FM 982

Control: 0387-05-019

DESCRIPTION	UNIT	QUANTITY
RELOCATE SIGN PANEL (R10-12, R9-3a)	EA	6
SINGL STREET NAME SIGN PANEL	EA	2
DUAL STREET NAME SIGN PANEL	EA	2
250 WATT HPS LUMINAIRE	EA	2
RELOCATE OPTICOM EQUIPMENT	EA	1
8 PHASE NEMA CONTROLLER COMPLETE W/ CABINET AND ACCESSORIES	EA	1
TRAFFIC SIGNAL CONTROLLER FOUNDATION	EA	1
DETECTOR CARD RACK	EA	1

LIST OF MATERIAL
FURNISHED BY THE CITY OF PRINCETON

DESCRIPTION	UNIT	QUANTITY
OPTICOM CABLE	LF	297